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ABSTRACT

A survey of nursing leaders was conducted to identify values, opinions and ideas about the baccalaureate nursing curriculum, and the views identified were analyzed from the perspective of curriculum theory. The population consisted of 488 registered nurses listed in the 1985 Directory of Fellows of the American Academy of Nursing. Data were collected in three iterations through mail questionnaires, with an overall response rate of 56.9%. Responses were analyzed using the following theoretical and empirical classification categories: cognitive processes, self-actualization, Eisner technology, Huebner technical valuing, academic rationalism, and social relevance/reconstruction. Results included the following: (1) items assigned to Huebner's technical valuing perspective, involving nursing content and learning activities, were most common; (2) the second most commonly occurring curriculum perspective was social relevance/reconstruction; (3) although few questionnaire items represented a cognitive processes or self-actualization perspective, approximately one-third of them were rated as essential, indicating their perceived importance in the nursing curriculum; and (4) a lack of emphasis on a liberal or general education was shown. Data are presented in 8 tables. 49 references. (KM)

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RECONCEPTUALIZING THE BACCALAUREATE NURSING CURRICULUM

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Review of Literature

Changes in society and health care which began in the second quarter of the twentieth century combined to have a major impact on nursing education. As medical knowledge, practice and technology advanced, nursing care of patients became more complex and a stronger knowledge base was required for practice. As access to health care increased, more patients were hospitalized and more graduate nurses were needed in hospitals.

Current factors influencing nursing curricula include a changing demography such as multilingualism and an increasing proportion of older people in the client population, a communication revolution as well as legislative and court challenges to nursing practice (Lancaster, 1986). To adapt to these factors, education of nurses "cannot become too specialized, and it should emphasize ethnic diversity and fluency in a second language as well as computer knowledge" (Bartkowski and Swandby, 1985, p. 377). It has been suggested that nursing education should respond to changing demographics of the population by clarifying nursing's body of knowledge, by teaching health promotion strategies and by exposing students to the economics of health care (Lancaster, 1986). Nursing educators have also been urged to maintain the liberal education component of the baccalaureate program (Newell, 1985; Wooley, 1986; Conway-Welch, 1986).

What are the implications of these recommendations for the baccalaureate nursing curriculum? Should a greater emphasis be placed on ethical decision making for situations created by technological advances? Should the curriculum center on the latest technological advances? Is a focus on prevention and self care appropriate? Should critical thinking skills receive more emphasis? Is it unclear what direction baccalaureate nursing education should take in light of this myriad of possibilities, many of which may conflict.

Purpose

This study will identify values, opinions and ideas about the baccalaureate nursing curriculum through a survey of nursing leaders. Their views will be analyzed from the perspective of curriculum theory. The purpose of this study is to reconceptualize the baccalaureate nursing curriculum on the basis of the aggregated views of nursing leaders. The following question will be answered in this study: In 1995, what should be taught to the student in a baccalaureate nursing program?

This study is limited in that:

1. only nurses will be asked to forecast the nursing curriculum.

2. the value of expert opinion for forecasting has not been established empirically (Sackman, 1976; Armstrong, 1978).

3. classifying concepts of curriculum "involves a certain degree of arbitrariness, oversimplification, vague distinctions, and some overlap" (Ariav and Atkins, 1983, p. 4).

General Education

In the late 1950's, a study funded by the Carnegie Corporation found that "educators in the nursing profession wholeheartedly subscribe to the value of liberal education" (Russell, 1959, p. 116). However, Russell also found that these educators tended "to consider liberal arts subjects in terms of professional competence" (1959, p. 117) and placed a great deal of emphasis on professional competence. Nursing literature during this period confirmed Russell's observations (Bridgman, 1953; Moseley and Belcher, 1955; Walsh, 1955; Belcher and Broer, 1957; Henle, 1961; McLain, 1963; Piehler, 1963; Mayhew, 1969).

In a study of general education in baccalaureate nursing programs, Pillepich (1962) discovered similar attitudes and stressed the primacy of a liberal education as the core of higher education. Pillepich found that baccalaureate nursing education compares "very favorably with other professions which educate practicioners on the baccalaureate level" (1962, p. 58) but that progress toward increasing the emphasis on liberal education was hampered by four factors: 1) nursing educators believe that professional objectives ought to dominate the total curriculum; 2) nursing educators have a confused and incomplete view of general education; 3) there are many varieties of nursing education, with the predominant hospital based programs providing little or no general education; and 4) the vocational goals of nursing dominate the baccalaureate nursing programs. While the National League for Nursing recommended an equal distribution of general education and nursing credits, "the 50 percent of 'general education' is often satisfied by courses with a professional

orientation" and "subject areas such as history, political science, economics, philosophy and fine arts are high on the deficient list in nursing programs" (Pillepich, 1962, p. 62). The National League for Nursing and the American Nurses Association encouraged faculty to develop baccalaureate programs that provided both a professional and liberal education (Spohn, 1962).

Professional Education

Since the establishment of nursing education programs in the United States, a variety of curricula have existed. Robb (1907) called for a uniform system of instruction, noting that "the teaching methods of no two schools will be found to be alike, all varying according to the demands of the various institutions and their several authorities" (p. 15). The American Association of Colleges of Nursing (1986) undertook the "first comprehensive national effort to define the essential knowledge, practice, and values that the baccalaureate nurse should possess" (p. 1). The essentials, which are intended to be both a curriculum guide and a standard for evaluation of graduates, address liberal education, values and professional behaviors, and knowledge and a professional nursing practice. Essential values include: altruism, equality, esthetics, freedom, human dignity, justice and truth. Twelve goals of a liberal education are listed to further specify the goal that "the graduate will exhibit qualities of mind and character that are necessary to live a free and fulfilling life, act in the public interest locally and globally, and contribute to health care improvements and the nursing profession" (p. 4). Three

professional practice roles, provider of care, coordinator of care, and member of a profession, are described in detail.

Rogers (1961) called for curriculum to differentiate professional education from technology and "reflect the increasing complexity of the collegiate level" (p. 34). "The undergraduate curriculum in nursing encompasses the fusion of three broad categories of learning." (Rogers, 1961, p. 35-36). These categories include: developing the educated man, furthering knowledge and understanding of the human organism (biophysical and psychosocial organisms), and teaching nursing content (Rogers, 1961, p. 36). However, disease, body systems, or patient care approaches were the curriculum structure which persisted until the 1950's (Stevens, 1971).

Weiner (1968) found baccalaureate nursing programs rigidly organized around five clinical specialties: medical, surgical, psychiatric, pediatric and maternity nursing. The nature of this organization inhibited the student's ability to synthesize and conceptualize on a broad basis (Weiner, 1968). In a study of how curricular change is based on validated knowledge, Ketefian (1972) found that dissatisfaction with the "existing curriculum was important in initiating the innovative process" (p. 209) and the "most crucial factor for success appeared to be faculty participation" (p. 209). Nelson (1960) found little overall curriculum change with curriculum change focusing on structural changes such as integration of content, resequencing or combining courses and addition of new content to existing courses. Chater (1975) agreed that nursing educators

continued to add to complex, inconsistent curricula rather than reframe the entire curriculum to provide organization and unity.

In a study of theories of nursing curricula, Gallo (1985) found that most curriculum development has been based on National League for Nursing curriculum documents and the works of Bevis (1982) and Torres and Stanton (1982). Accreditation of nursing schools has been coordinated by the National League for Nursing and it is voluntary, but it became important in the 1960's when eligibility for federal funding was determined by accreditation status. Thus, nursing programs increasingly attempted to comply with the criteria for accreditation of the National League for Nursing. Although flexibility in curriculum design was implied, specific evaluation criteria led to "subtle standardization and regulation" (Gallo, 1985, p. 85).

Factors influencing curriculum development

Gallo (1985) identifies three developments in educational thinking that have influenced nursing curricula since the 1950's: systems theory approach, Tyler's approach to curriculum, and Bruner's structuring of disciplines. As one basis for nursing curriculum development in institutions of higher education, nurse educators used management systems models derived from general systems theory (Gallo, 1985). Tyler's linear process of curriculum development had a major impact on nursing education as evidenced by curriculum characterized by behavioral objectives, organizing threads, main structural elements such as subjects divided into learning units, and evaluation of

learning based on behavioral objectives. Bevis (1982), Torres and Stanton (1982) and National League for Nursing accreditation and curriculum development documents rely heavily on Tyler's linear process of curriculum development (Gallo, 1985). Bruner's concepts of the structure of a discipline and student readiness and interest lead to the development of a philosophy and conceptual framework for a nursing program which identified essential content, key concepts and learning activities (Gallo, 1985).

Several concurrent developments in nursing, beginning in the 1960's also influenced nursing curricula: the search for nursing theory, the development of nursing models, and the appraisal of clinical laboratory learning experiences. Different perceptions of practice and ways of operationalizing clinical learning activities are emerging (Infante, 1975). Models of nursing incorporate concepts about the person, the environment, health and nursing and contribute to the development of nursing theories (Gallo, 1985). Nurses who believe that theory should guide practice and define the domain of nursing instigated the search for a theory of nursing (Meleis, 1985). Although several nursing theories are developing, there is agreement among theorists and schools of thought that the theories should do one or more of the following: 1) provide a beginning articulation of what nursing is and what roles nurses play; 2) offer a view of the philosophical underpinning in nursing; 3) address how to help patients; and 4) present a beginning common language and a view of the patient as a holistic being with needs who is a member of a reference group (Meleis, 1985). As a result of nursing theory development,

nurse educators are relying less on the medical model of content organization.

Torres and Stanton (1982) suggest that the curriculum developed by faculty should include a balance of general education, humanities, supporting courses and nursing. Bevis (1982) includes four major components of curriculum development: philosophical base, setting, student and knowledge. The major part of her work deals with the knowledge component of this construct which she identifies as "the way faculty wants the students and graduates of the programs to view the practice of nursing" (p. 101). These two texts and National League for Nursing documents serve as the mainstream for curriculum development and "are limited to statements about: 1. a logical, rational, ideal curriculum development process, and 2. major structural components of the written, prescriptive curriculum plan" (Gallo, 1985, p. 188). This suggests a discipline-centered approach where subject matter is controlled by the curriculum planners (Gallo, 1985).

Methodology

The Delphi Technique

The Delphi Technique was used to solicit the opinions of a group of nursing leaders concerning the generic baccalaureate nursing curriculum in 1995. The Delphi Technique is defined as "a method for structuring a group communication process so that the process is

effective in allowing a group of individuals, as a whole, to deal with a complex problem" (Linstone and Turoff, 1975, p. 3).

The Delphi Technique was developed by the Rand Corporation during the early 1950's for the purpose of forecasting. It was designed to obtain opinions from a group of people using a protocol which elicited a written response, thereby minimizing the undesirable effects of small group interactions, such as the influence of a dominant person, irrelevant or redundant material and pressure to compromise (Dalkey, 1967). The Delphi Technique makes effective use of informed judgment by allowing a panel of individuals to respond to a series of mailed questionnaires (Hemler, 1967). The technique has three distinctive characteristics: anonymity, controlled feedback and statistical analysis of group response (Dalkey, 1967).

The Delphi Technique was chosen for this study because it can be used to solicit opinions from a large, national group, because it provides feedback to respondents and because it allows respondents to revise their opinions after review of an analysis of the group's response. In nursing, the Delphi Technique has been employed to forecast priorities for nursing research (Lindeman, 1975), to identify competencies of technical nursing practice (Allen, 1977), to clarify the meaning of nursing diagnosis (Shoemaker, 1982), to anticipate needs for nursing service (McNally, 1974) and to identify probable future events in nursing practice, education and educational administration (Hill, 1984).

Long range forecasting of curricula does not lend itself to precise analytical techniques but rather to subjective judgments.

Since a large, national sample was desired and it was not feasible to hold face-to-face meetings, the Delphi Technique was employed as a vehicle for group interaction. Further, because anonymity was assured and all group communication was written, participants were not subject to undue influence from prominent or forceful members of the group.

While controlled group feedback is characteristic of Delphi studies, the effects of feedback are uncertain. Sackman (1974) suggests that the Delphi Technique forces consensus based on group suggestion and encourages conformity. In a study where some participants were given no feedback from previous rounds, Barnette, Danielson and Algozzine (1978) found that item means did not change as a result of feedback conditions. In addition, item variances were lower for the feedback group than for the no-feedback group, suggesting a "bandwagon" effect (Barnette et al, 1978). Parente, Anderson, Myers and O'Brien (1984) found that the accuracy of individual predictions of when and if an occurrence would happen in a short time frame were enhanced when individuals were provided with group feedback.

In addition to questions about the effects of feedback, others have raised concerns about the Delphi Technique. Armstrong (1978) cites researchers for failing to study the predictive values of the Delphi Technique and for not providing full details of their methods. In addition, issues related to selection of expert samples, lack of accountability of respondents due to anonymity and the impact of feedback on expert opinion in later stages of the iterations need to be considered by researchers using the technique (Sackman, 1976).

Development of Delphi Format and Instruments

In this study, an elite group of nursing leaders (Fellows of the American Academy of Nursing) were asked to identify what should be taught in the baccalaureate nursing curriculum in 1995 and, in subsequent rounds, were asked to rate items generated by the respondents. Participants were told that their responses would be used to develop a model of the generic baccalaureate curriculum of 1995. During the course of this study, three iterations were mailed to participants. The purpose of the first questionnaire was to identify what the panel thought should be taught in a baccalaureate nursing program in 1995. On the first iteration, which was mailed during the summer of 1985 to 488 nursing leaders, panelists were asked to answer the broad, open-ended question: "In 1995, what should be taught to the student in the baccalaureate nursing program?" Included with the questionnaire were a cover letter with an introduction to the study, an instruction sheet, a demographic data sheet, and a stamped, self-addressed envelope. Responses were received from 156 nurses, representing 31.9 percent of the sample.

The second questionnaire was mailed in March of 1986, approximately five months after the first questionnaire. The objective of the second questionnaire was to provide the panel with a complete listing of all ideas generated in the first questionnaire and to have them rate each item. All suggestions contained in the responses to the first iteration, regardless of frequency, were content analyzed and included in the second iteration. Ideas from respondents were grouped into conceptual statements whenever possible.

As a check on possible investigator bias, the content analysis was reviewed by a social psychologist familiar with nursing education. Items were then randomly assigned placement in the questionnaire. The questionnaire was lengthy, containing 112 items.

Although respondents were asked what should be taught in a baccalaureate program in 1995, some respondents provided statements about the structure of the program and other general comments. These were included as a separate part of the second iteration. At the end of the second questionnaire, respondents were instructed "If you can think of anything which should be part of the baccalaureate nursing program in 1995 which is not included here, please list your ideas below. These will be incorporated in the third and final round questionnaire."

The second questionnaire was sent to the entire sample who received the first questionnaire except for the 36 nurses who either declined to participate or were not receiving mail at the listed address. The second questionnaire was mailed to 450 nurses and 197 responded, representing 40.3 percent of the sample.

A scale for recording opinions of respondents was developed. Respondents were asked to rate each item using a five point scale: essential, very desirable, desireable, not desirable and optional. Each rating was assigned a numerical value in order to perform a statistical analysis on responses to items on the second questionnaire. A five point scale was used to analyze the data, with a rating of essential assigned a numerical value of four and a rating of not desirable assigned a numerical value of zero.

In addition to rating the items, 42 respondents provided suggestions in reply to the open ended questions at the end of the Round Two Questionnaire. These suggestions were content analyzed and became the 17 new items that constituted part three of the Round Three Questionnaire. A total of 80 respondents wrote comments on the questionnaire to explain or add emphasis to their opinion, to suggest that they disagreed with one of the examples used to illustrate a concept, or to object to terminology.

Descriptive statistics for the items on the second round were prepared and returned to respondents with the 17 new items which were generated by respondents who replied to the open ended question at the end of the second questionnaire. A mean, frequency and standard deviation was performed for each item.

The third questionnaire was mailed to 444 nurses in May of 1986. The sample was reduced to 444 on the third mailing as six nurses declined to participate after receiving the second questionnaire or were not receiving mail at the address on the envelope. The purpose of the third questionnaire was to allow subjects who had responded to the second questionnaire the opportunity to revise their opinions, to give all Fellows a chance to rate new items, and to provide Fellows who had not participated in the previous questionnaires an opportunity to participate in the study.

The Round Three Questionnaire was identical to the Round Two Questionnaire except that 17 new items were added as a result of responses to the open ended question at the end of the Round Two Questionnaire. A mean, calculated from group responses to the second

questionnaire, was provided for each of the 112 items on the Round Two Questionnaire. Respondents were asked to indicate agreement with the group mean or to provide a different rating using the same scale as used in the second questionnaire. Respondents were asked to rate each of the 17 new items, for which no mean was available.

To test the effects of individual feedback, 40 respondents to both the first and second questionnaire and 40 respondents to only the second questionnaire received the group mean and their individual rating of each item on the second questionnaire. All others received the group mean only. Of the 444 questionnaires mailed, 189 were returned, representing 38.7 percent of the sample. Of the 80 questionnaires with group and individual data, 58 were returned for a response rate of 72.5 percent. Three hundred and sixty four (364) questionnaires were mailed with group data only and 131 of these were returned for a response rate of 35.9 percent.

Population and Sample

The population consisted of 488 registered nurses listed in the 1985 Directory of Fellows of the American Academy of Nursing. The Academy was founded in 1973 under the aegis of the American Nurses Association. Nurse leaders from practice, administration, education and research are elected to the Academy by Academy Fellows. This group was selected because it was assumed that nurses who were elected to this elite national group were prominent because of their contributions to nursing. The Fellows are a specialized sample of a larger population of nursing leaders. It was expected that this group

was comprised of decision makers for the nursing profession.

Response rates to the three questionnaires are summarized in Table 1. The highest response rate was for the second questionnaire, when 197 nurses returned the questionnaire, representing a response rate of 40.3 percent. The lowest response rate was for the first questionnaire, when 156 nurses returned the questionnaire, representing a response rate of 31.9 percent. The defined population of 488 Fellows was reduced to a sample of 450 on the second questionnaire and a sample of 444 on the third questionnaire due to nurses who declined to participate or were not receiving mail at the address listed on the envelope.

Table 1

Responses to Questionnaires

	Questionnaire		
	1	2	3
Population	488	488	488
Sample	488	450	444
Number of respondents	156	197	189
Percent of population	31.9	40.3	38.7

Of the 488 Fellows listed in the directory, 278 responded to at least one questionnaire, for a response rate of 56.9 percent. The respondents represented a national sample as described in Table 2. Four populous regions were more heavily represented than other areas: East North Central; Middle Atlantic; Pacific; and South Atlantic. Nine respondents did not complete the demographic data sheet and two respondents were living out of the country, providing a sample of 267 for analysis of demographic data.

Table 2

Description of Respondents by Region of Country

N = 278

Region	Frequency	Percent of sample
East North Central	50	17.9
East South Central	10	3.5
Middle Atlantic	48	17.2
Mountain	15	5.3
New England	18	6.4
Pacific	43	15.4
South Atlantic	53	19.0
West North Central	16	5.7
West South Central	14	5.0
Unknown	9	3.2
Out of country	2	0.7
	278	99.3*

* Percentages were rounded, therefore do not total 100 percent.

Respondents were asked to estimate the amount of their professional time that was spent in the following activities: practice, research, administration, and teaching. The primary professional activity of respondents was determined by that activity which consumed 60 percent of more of the respondent's time. The primary professional activity of 39.3 percent of the respondents was administration. Another 26.8 percent were involved primarily in teaching. Research was the primary professional activity of 18.3 percent of the respondents while 6.7 percent of the respondents were primarily practicioners. Other activities were the primary professional activities of 1.3 percent of the respondents. The remaining 7.5 percent of the population did not spend 60 percent or more of their professional time in any one activity.

Respondents were asked to identify the type of basic nursing education program they attended and the year in which they finished. The majority of the population, 53.2 percent, completed a hospital based diploma nursing program. Of the remaining respondents, 38.8 percent graduated from a baccalaureate nursing program, 2.5 percent graduated from an associate degree nursing program and 1.8 percent graduated from a generic masters degree program in nursing. The remaining 3.6 percent did not answer the question.

Respondents were also asked to identify their highest degree and the year it was attained. A clear majority, 80.2 percent, holds a doctoral degree while 15.8 percent listed the masters degree as the highest degree attained. A few nurses, 4 percent of the sample, did not answer this question.

A mean score was calculated for the year in which basic nursing education was completed and for the year in which the highest degree was completed. The mean year for completion of basic nursing education was 1954. The mean year for completion of the highest degree was 1970. The Fellows, then, are a group of nurses which began their education in diploma programs, subsequently participated as learners in baccalaureate education and earned their highest degree sixteen (16) years after graduating from nursing school.

Analysis of Data

The data were analyzed using the Huebner and Eisner and Valance theoretical perspectives of curriculum. In addition, the data were subjected to a factor analysis.

Given the large number of items and the need for data reduction, the data were subjected to a principal components factor analysis followed by a varimax rotation. This quantitative analysis was done in an attempt to analyze content generated by respondents according to any latent dimensions that might describe the respondents' conceptions of curriculum.

Curriculum classification systems help "to develop a global understanding of the broad directions and salient features of complementary and conflicting frameworks, sharpen our theoretical efforts, and provide a sense of history and continuity for researchers and practicioners" (Ariav & Atkins, 1983, p. 1). Two common systems classify broad perspectives on curriculum (Eisner & Valance, 1974; Eisner, 1985; Huebner, 1966). Eisner and Valance (1974; Eisner, 1985) identify five conflicting conceptions of curriculum: development of cognitive processes, curriculum as technology, self actualization or curriculum as consummatory experience, social reconstruction-relevance and academic rationalism. Huebner (1966) identifies five value systems for classifying curricular thought: technical, political, scientific, aesthetic and ethical.

The development of cognitive processes, concerned with amplification and refinement of intellectual operations, rarely focuses on content. Instead, the student becomes a proficient analyst who is able to evaluate options and develop effective strategies to solve problems. Curriculum as technology deals with developing an efficient means of instruction whereby the educator organizes and presents material. Education is seen as an integrative, synthesizing,

value saturated growth experience in the self actualization conception of curriculum. Societal needs are primary in the social reconstruction conception of curriculum which emphasizes learning to function effectively in society and to shape societal change. Academic rationalism is content oriented and focused on providing the student with access to the greatest ideas and objects that man has created, commonly associated with a traditional liberal arts education (Eisner & Valance, 1974; Eisner, 1985).

In Huebner's (1966) technical value system, the most common type of curricular ideology, a means-ends rationality prevails in which the curriculum designer identifies end products, often in the form of behavioral objectives, and develops activities by which to achieve these means. Political valuing, a usually covert but essential orientation, focuses on enhancing the student or teacher's personal power and ability to function in society or in an institution. The focus of scientific valuing is attainment or production of information or knowledge, primarily through scientific methodology. In aesthetic valuing, objects have no functional use, while totality, unity, and symbolism are prized for the meanings they reveal. Ethical valuing deals with appreciation of person to person interaction and education for its own sake.

While Eisner and Valance present their classification system as a summary of the way educators have traditionally thought about curriculum, Huebner's conception of curriculum has a broader context which "functions to illuminate all aspects of the educational environment" (Atkins, 1982, p. 172). Eisner and Valance (1974)

concede that their framework is an oversimplification and that pure forms of these categories may not be seen in practice. For example, it is difficult to separate clearly academic rationalism and cognitive processes. Huebner (1966) feels all five value perspectives used to define categories are usually seen in a curriculum and are necessary for a rich and meaningful education. Both classification lenses are powerful and provide different ways of looking at technical valuing. These two lenses will be used together, except for the technical valuing lens, to look at nursing curriculum.

These two theoretical curriculum perspective classification systems were used to describe values of Fellows and their conceptions of curriculum in responses to the final iteration. The opinions and preferences of Fellows of the American Academy of Nursing were used to construct a model for reconceptualizing the baccalaureate nursing program in 1995 as it is assumed that "curriculum change is guided by normative visions of the future" (Atkins, 1984, p. 8).

Results and Discussion

Theoretical Curriculum Perspective Classification Categories

After responses to the third questionnaire were received, items were sorted into the curriculum perspective classification categories previously described: cognitive processes (CP), self actualization (SA), Eisner's technology (ET), Huebner's technical valuing (HT), academic rationalism (AR), and social relevance/reconstruction (SR). Sorting the items according to curriculum perspective required a

considerable amount of judgment since the categories are not discrete and multiple meanings could be derived from some items. For example, "The baccalaureate nursing curriculum should offer fine arts (e.g., music, theatre, art, architecture)" was classified as representing an academic rationalism perspective, but it could be interpreted as representative of a self actualization perspective. Sample items for each curriculum category are listed below in Table 3. Four items could not be clearly assigned to one category. In an attempt to deal with the conceptual ambiguity which resulted from some responses, an additional category of complex ratings was developed for these four items. Three of the items were classified as Huebner's technical valuing perspective or social relevance (HT/SR). One item was assigned to the complex category of academic rationalism or cognitive processes (AR/CP).

Table 3

Selected Questionnaire Items associated with

Theoretical Curriculum Classification Perspectives

Cognitive Processes (CP)

Item

3. A variety of inquiry methods should be taught.

4. The program should teach analytic and problem solving skills as a basis for clinical decision making (e.g., evaluation of new knowledge, critical thinking.)

35. The program should enhance the development of analytical skills and creative thinking.

52. Clinical experiences should focus on analysis and synthesis of knowledge based on nursing theories and research.

Self Actualization (SA)

5.[1] The program should provide students with a more active role in their learning (e.g., independent studies, self-directed learning).

32. Ethics and value clarification should be taught (e.g., moral reasoning, ethical decision making, patient and family rights, issues of access to care.)

36. The program should concentrate on the student's personal and intellectual development (e.g., self esteem, excellence, creativity, innovation, flexibility, assertiveness, developing judgment, learning multiple ways of knowing, choosing elective courses.)

49. Metaphysical and spiritual aspects of nursing should be included in the program.

Eisner's Technology (ET)

33. The program should provide a fundamental education which enables the student to move to graduate education.

46. Computer literacy should be taught (e.g., programming, accessing information, information processing.)

49. The nursing process should be taught (e.g., assessing, developing a nursing diagnosis, planning, intervening and evaluating nursing care.)

10.[2] Clerkship experiences between undergraduate semesters should be provided.

Huebner's Technical Valuing (HT)

6. Pharmacology, including over-the-counter drugs, should be taught.

26. Patient management should be taught (e.g., discharge planning, management of groups of patients, clinical experiences on all three shifts, individualizing patient care.)

43. Fundamental nursing skills should be taught (e.g., ROM exercises, body mechanics, infection control, catheterization, irrigations, wound care, protective and safety devices, comfort measures, helping skills, CPR, pre- and post-operative care, artificial airway care, noninvasive monitoring, observations skills, physical and psychosocial assessment, medication administration, documentation, taking a nursing history.)

54. The baccalaureate program should develop the student's therapeutic skills in the psychosocial domain (e.g., counseling, crisis intervention, use of social support systems).

Academic rationalism (AR)

11. The program should provide a strong background in mathematics and the physical sciences (e.g., calculus, statistics, physics).

15. The program should offer geography.

19. The program should provide the student with the tools to participate in the Western cultural tradition (e.g., the greatest ideas and objects that man has created).

37. The baccalaureate nursing curriculum should offer fine arts (e.g., music, theatre, art, architecture).

Social relevance/reconstruction

7. The program should introduce the student to health care delivery systems (e.g., models of nursing care, quality control measures, consumer involvement, professional roles in industrial settings, systems analysis).

8. The ability to speak a second language should be a program requirement.

10. Management of contracted nursing services and entrepreneurial activities should be taught.

20. Professional and legal responsibility to patients should be taught ranging from early role socialization to the nurse's advocacy for and accountability to patients, and responsibility for own continuing education.

Complex rating: Huebner Technical Valuing and Social Relevance/Reconstruction (HT/SR)

1. Sexuality across the life span should be taught.

1. Midwifery should be taught.

1. Space medicine/nursing should be taught.

Complex rating: Academic Rationalism/Cognitive Processes (AR/CP)

17. Scientific methodology should be taught.

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[1] Part Two of Round Three Questionnaire

[2] Part Three of Round Three Questionnaire

A frequency distribution of items by curriculum category is contained in Table 4. Two thirds of the 129 items fell into two of the six categories. Huebner's technical valuing system was the most prevalent category, representing 52, or 40.3 percent, of the 129 items. Social relevance/reconstruction accounted for 35, or 27.1 percent, of the items and was the second most common curriculum perspective. Academic rationalism, cognitive processes and self actualization were the least represented, each with less than seven percent of the items.

Table 4

Items Classified by Theoretical Curriculum Perspective

Curriculum Perspective	N	%
Cognitive Processes (CP)	8	6.2
Self Actualization (SA)	9	6.9
Eisner Technology (ET)	14	10.8
Huebner Technical Valuing (HT)	52	40.3
Academic Rationalism (AR)	7	5.4
Social Relevance/ Reconstruction (SR)	35	27.1
Complex rating		
HT/SR	3	2.3
AR/CP	1	0.7
	129	99.7*

* Percentages were rounded, therefore do not total 100%.

Further analysis of curriculum perspective was provided by a frequency distribution of respondents' ratings within each perspective. These data are contained in Table 5. No items on the questionnaire were rated as not desirable. Of the remaining ratings, the rating of optional occurred least frequently. The rating of very desirable occurred most frequently, representing 63.2 percent of the items.

This negative skew was expected because respondents were asked to identify what should be taught, thus items which were undesirable were not generated. To accommodate this negative skew, the midpoint of the

rating range was defined as the boundary for the rating. For example, instead of considering all items with a mean rating of 3.01 to 4.00 as essential, only items with a mean rating between 3.51 and 4.00 were considered essential.

While the curriculum perspective of cognitive processes was represented by only 8 items, three of those items (37.5 percent) were rated as essential. One third of the 9 self actualization items were rated as essential. The curriculum perspective category with the largest number of items, Huebner's technical valuing, had only four items (7.6 percent) rated as essential. None of the items representing an academic rationalism perspective was rated as essential. Figure 1 below is a graphic representation of the mean rating for each curriculum perspective.

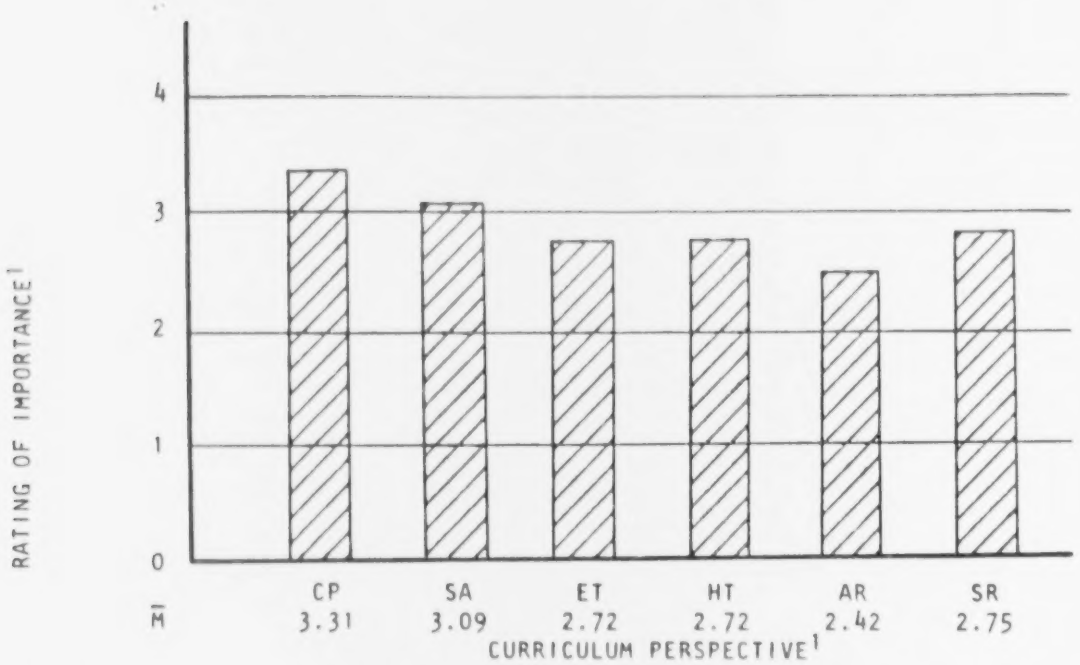
Table 5

Frequency Distribution of Round Three Questionnaire Items by Theoretical Curriculum Perspective

n = 129

Curriculum Perspective	Rating: Essential 3.51-4.00	Very Desirable 3.50-2.51	Desirable 2.50-1.51	Optional 1.50-0.51	N	$\bar{M}$
Cognitive Processes (CP)	3	4	1	0	8	3.31
Self Actualization (SA)	3	4	2	0	9	3.09
Eisner Technology (ET)	2	9	2	1	14	2.72
Huebner Technical Valuing (HT)	4	33	10	5	52	2.72
Academic Rationalism (AR)	0	3	3	1	7	2.42
Social relevance/ reconstruction (SR)	2	23	9	1	35	2.75
Complex ratings						
HT/SR	0	1	0	2	3	1.74
AR/CP	0	1	0	0	1	3.27

Note No items were rated as not desirable.



1. Curriculum Perspective
   CP = Cognitive Processes
   SA = Self Actualization
   ET = Eisner Technology
   HT = Huebner Technical Valuing
   AR = Academic Rationalism
   SR = Social Relevance/Reconstruction

2. Based on a rating scale where:
   Essential = 4
   Very desirable = 3
   Desirable = 2
   Optional = 1
   Not desirable = 0

Figure 1. Mean Ratings for Theoretical Curriculum Perspectives.

The mean scores for curriculum perspectives ranged from 1.74 to 3.31. The perspective with the highest mean rating was Cognitive Processes and the second highest was the perspective of Self Actualization.

A comparison of item ratings for Round Two and Round Three Questionnaires is summarized in Table 6. The same 14 items were rated as essential during Rounds Two and Three. The Round Three Questionnaire contained an additional 17 items, so the actual number of items in each rating category increased. There were small changes in the percent of items in each rating category. In both rounds, the rating of very desirable was most common. These data are graphically depicted in Figure 2.

Table 6

Summary of Rounds Two and Three Ratings

	Round Two		Round Three	
Rating	N	Percent	N	Percent
Essential (3.51-4.00)	14	12.5	14	10.8
Very desirable (3.50-2.51)	75	66.9	82	63.5
Desirable (2.50-1.51)	19	16.9	27	20.9
Optional (1.50-0.51)	4	3.5	6	4.6
Not desirable (0.00-0.50)	0	0.0	0	0.0
	112	99.8*	129	99.8*

* Percentages were rounded, therefore do not total 100%

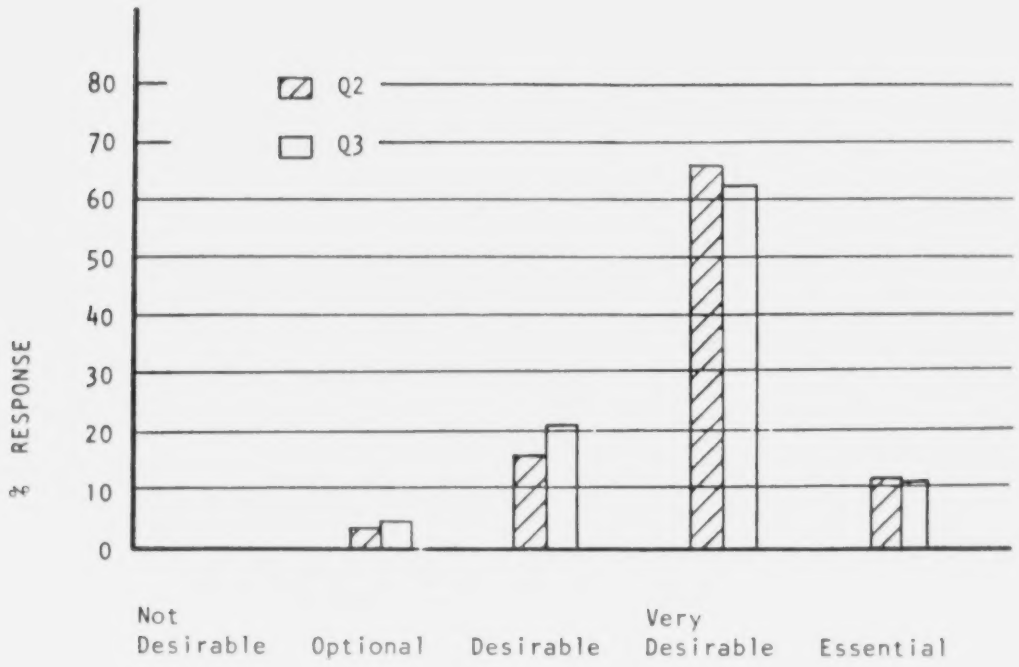


Figure 2. Comparison of Mean Ratings of Importance for Items on Round Two Questionnaire (Q2) and Round Three Questionnaire (Q3)

Using curriculum perspective classification categories, the 14 items identified as essential were sorted into five categories: development of cognitive processes, Eisner's technology, Huebner's technical valuing, social relevance/reconstruction and curriculum a self actualizing experience. No items classified as having an academic rationalism perspective were rated as essential by respondents.

To summarize, the data were analyzed using Huebner's and Eisner and Valance's curriculum classification categories in an attempt to determine the curricular values of respondents. All curriculum perspectives were represented in the responses. Items dealing with nursing knowledge and practice, illustrating Huebner's technical valuing perspective, were most common. Most of these 52 items, 63.4 percent, were rated as very desirable. The perspectives of cognitive processes and self actualization occurred less frequently but were more highly rated. Academic rationalism was represented by 7 items, none of which was rated as essential.

Factor Analysis

A principal components factor analysis was used to identify clusters of related variables. After a varimax rotation, six factors were extracted. In Table 7 below, the six factors are described by presenting the three items with the highest factor loading on each factor. Factor titles were developed after examining the item content of each factor.

Table 7

The Six Factors with the Three Highest Loading Items on Each Factor

Factor	Items With Highest Loading	Factor Loading
I. High Level Cognitive and Affective Skills	45. The program should assist the student to sharpen intellectual processes and develop cognitive skills that can be used in any learning setting.	.80
	32. Ethics and value clarification should be taught (e.g., moral reasoning, ethical decision making, patient and family rights, issues of access to care).	.69
	1. Care of chronically ill people should be included in the program.	.68
II. Professional Foundations	29. The impact of culture on health, illness and health care needs should be taught (e.g., differing responses to illness, religious beliefs and practices, variations in family dynamics).	.64
	12. The program should provide a strong background in the behavioral sciences (e.g., human development, sociology, abnormal psychology, family and group dynamics, cultural anthropology).	.57
	26. Patient management should be taught (e.g., discharge planning, management of groups of patients, clinical experiences on all three shifts, individualizing patient care).	.55
III. Interterpersonal and Organizational Skills	28. Social and organizational change and change agent skills should be taught with an emphasis on the health care system.	.71
	2.[1] Leadership should be taught in the baccalaureate nursing program.	.63
	39. The program should teach students how to influence and communicate with the economic, political and health care systems.	.61

IV. Expanding Scope of Knowledge and Practice	10.	Management of contracted nursing services and entrepreneurial activities should be taught.	.74
	1.	Space medicine/nursing should be included in the program.	.66
	23.	The program should include developments in human factors engineering (e.g., robotics, biochemical engineering).	.60
V. Traditional Medical Model	29.	Clinical sites should include medical-surgical hospital settings.	.66
	29.	Clinical sites should include intensive care units.	.66
	29.	Clinical sites should include psychiatric care settings.	.60
VI. Specialization in Graduate Education	9.[1]	Maternal-child nursing should be moved to the graduate level.	.76
	9.[1]	Psychiatric nursing should be moved to the graduate level.	.75
	9.[1]	Nursing of children should be moved to the graduate level.	.75

[1] Part Two of Round Three Questionnaire

A summary of items loading on each of the six factors is contained in Table 8. Table 8 also contains the curriculum perspective that each item represents. Factor II, Professional Foundation, contains items from each of the curriculum perspective categories. Specialization in Graduate Education, Factor VI, contains only items representing Huebner's technical valuing perspective. Factor I, High Level Cognitive and Affective Skills, consists of 21 items representing all curriculum perspectives except academic rationalism.

A comparison of mean ratings for item clusters for the six factors is graphically depicted in Figure 3. The mean scores range from 3.50 to 1.05. Factor I, High Level Cognitive and Affective Skills, represented the highest mean score, indicating that respondents valued the items associated with this factor. The second highest mean was for Factor II, Professional Foundations. Specialization in graduate education, Factor VI, represented the lowest mean.

Table 8

Summary of Items Loading on Each of Six Factors

Factor I: High Level Cognitive and Affective skills	
Curriculum Perspective	Item
Cognitive Processes (CP)	1,16
Self Actualization (SA)	2,8,18
Eisner Technology (ET)	9,19
Huebner Technical Valuing (HT)	3,4,6,7,10,11[1],12, 13,14,15,20
Academic Rationalism (AR)	--
Social Relevance/Reconstruction (SR)	5,11[1],17,21

Factor II: Professional Foundations

Curriculum Perspective	Item
Cognitive Processes (CP)	4,8,13
Self Actualization (SA)	14
Eisner Technology (ET)	16
Huebner Technical Valuing (HT)	3,10,11,15
Academic Rationalism (AR)	2,6,9,13
Social Relevance/Reconstruction (SR)	1,5,7,12

Factor III: Interpersonal and Organizational Skills

Curriculum Perspective	Item
Cognitive Processes (CP)	--
Self Actualization (SA)	6,7,12,14
Eisner Technology (ET)	11,13
Huebner Technical Valuing (HT)	5
Academic Rationalism (AR)	--
Social Relevance/Reconstruction (SR)	1,2,3,4,8,9,10

Factor IV: Expanding Scope of Knowledge and Practice

Curriculum Perspective	Item
Cognitive Processes (CP)	14
Self Actualization (SA)	--
Eisner Technology (ET)	--
Huebner Technical Valuing (HT)	2[1],3,4,6,7,9,10[1],11,12
Academic Rationalism (AR)	--
Social Relevance/Reconstruction (SR)	1,2[1],5,8,10[1],13

Factor V: Traditional Medical Model

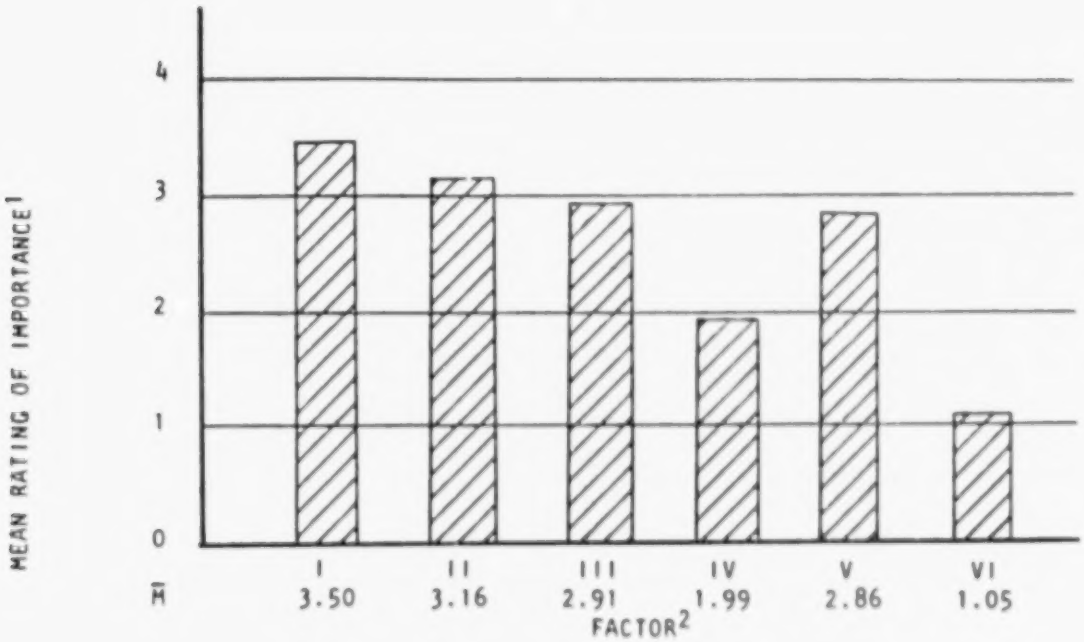
Curriculum Perspective	Item
Cognitive Processes (CP)	--
Self Actualization (SA)	--
Eisner Technology (ET)	--
Huebner Technical Valuing (HT)	1,2,3,4,5,6,7,8,11
Academic Rationalism (AR)	--
Social Relevance/Reconstruction (SR)	9[2],10

Factor VI: Specialization in Graduate Education

Curriculum Perspective	Item
Cognitive Processes (CP)	--
Self Actualization (SA)	--
Eisner Technology (ET)	--
Huebner Technical Valuing (HT)	1,2,3,4,5
Academic Rationalism (AR)	--
Social Relevance/Reconstruction (SR)	--

Note. Numbers are item numbers by Factor item number within factor and connote rank order by magnitude of factor loading.

1 Complex rating HT/SR, therefore appears in both categories
2 Negative loading



1. Based on a rating scale where:
   - Essential = 4
   - Very desirable = 3
   - Desirable = 2
   - Optional = 1
   - Not desirable = 0

2. Factor
   - I - High Level Cognitive and Affective Skills
   - II - Professional Foundations
   - III - Interpersonal and Organizational Skills
   - IV - Expanding Scope of Knowledge and Practice
   - V - Traditional Medical Model
   - VI - Specialization in Graduate Education

Figure 3. Mean Ratings of Six Factor Scores

In an effort to compare the empirical results (Factors I to VI) with the theoretical curriculum classification system, a distribution of item content by factor and theoretical classification was performed. The perspectives of cognitive processes and self

actualization represent the two highest means in both analyses. Huebner's technical valuing perspective represents the lowest mean. The mean of items by theoretical and empirical classification categories are contained in Table 8. A wide range of mean scores is evident. Cognitive processes and self actualization represent the highest rated perspectives. Using a five point scale with 4 as the highest rating and 0 as the lowest rating, these two perspectives were rated very highly. For Factor I, High Level Cognitive and Affective Skills, the mean score for cognitive process items was 3.97 and the mean score for self actualization items was 3.94. These high scores indicate that respondents were almost unanimous in their ratings of these items. This agreement by respondents is also evident in Factor VI, Specialization in Graduate Education where items representing Huebner's technical valuing perspective received a low rating of 1.05.

In both the theoretical and empirical analysis, items representing Huebner's technical valuing perspective occurred most frequently. In addition, items associated with this perspective were represented in each of the six factors. However, ratings for this perspective were not high in either analysis. The curriculum perspectives of cognitive processes and self actualization were most highly rated in both analyses. Academic rationalism was least highly rated in both analyses.

Table 8
Means of Items by Theoretical and Empirical Classification Categories

Curriculum Perspective	Factor I High Level Cognitive and Affective Skills	II Professional Foundations	III Interpersonal and Organizational Skills	IV Expanding Scope of Knowledge and Practice	V Traditional Medical Model	VI Specialization in Graduate Education	Row Means
Cognitive processes	3.97	3.20	---	3.04	---	---	3.37
Self actualization	3.94	3.16	3.05	---	---	---	3.40
Eisner Technology	3.45	3.22	2.57	---	---	---	3.05
Huebner Technical Valuing	3.39	3.23	2.90	1.98	2.93	1.05	2.63
Academic rationalism	---	2.96	---	---	---	---	2.96
Social relevance/ reconstruction	3.30	3.26	2.93	1.83	2.56	---	2.73
Column Means	3.50	3.16	2.91	1.99	2.86	1.05	

Note Mean ratings are based on a rating scale where:
Essential = 4
Very desirable = 3
Desirable = 2
Optional = 1
Not desirable = 0

Summary

When questionnaire items were classified by curriculum perspectives of Huebner and Eisner and Valance, all curriculum perspectives were represented. Items assigned to Huebner's technical valuing perspective were most common. These items dealt with nursing content and learning activities. Since the respondents were nursing leaders who were asked to describe a nursing curriculum, it is understandable that many of the items related to nursing. The second most commonly occurring curriculum perspective was social relevance/reconstruction. The changing demographics of American society and the uncertain economics of health care may explain the respondents' preference for the social relevance/reconstruction perspective.

Few questionnaire items represented either a cognitive processes or a self actualization perspective. However, approximately one third of these items were rated as essential, indicating that the respondents view these perspectives as cornerstones of the nursing curriculum. The strength of this observation was reinforced by the empirical analysis which showed that development of high level cognitive and affective skills was a value of almost all respondents.

The curriculum perspective of academic rationalism occurred least frequently and items representing this perspective were not rated highly, indicating a lack of emphasis on a liberal or general education. This supports observations about values related to nursing

education made previously (Russell, 1959; Pillepich, 1962) and is inconsistent with the recent report by the American Association of College of Nursing (1986) which makes clear the importance of a liberal education for the baccalaureate nursing graduate. However, some liberal or general education goals are addressed by items representing a self actualization perspective, which was highly rated.

This study attempted to answer the question: What should be taught to the student in a baccalaureate nursing program in 1995? For purposes of curriculum reconceptualization, the critical results of this study were characterized by 1) the multiple curriculum perspectives of the respondents; 2) the unanimity of opinion regarding the essential need for development of skills in both the cognitive and affective domain; and 3) the emphasis on content associated with professional nursing. These results are the essence of a reconceptualized baccalaureate nursing curriculum.

This study offers a model for reconceptualizing the baccalaureate nursing curriculum based on expert forecasting subjected to both theoretical and empirical analysis. It provides one view of the future of the baccalaureate nursing program. This view should not be interpreted as a prescriptive curriculum.

Forecasting is, by definition, a speculative process. Many factors may influence what the world and nursing programs will be like in 1995. While assumptions about the future assist us to define values, these assumptions are based on the present which is ever changing. Perhaps the only certainty is that change will provide many opportunities to reconceptualize the nursing curriculum.

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